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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/771,897	02/04/2004	Narasimhan Gautam	15060-60	3893
69949 7590 07/16/2009 PATRICK W. RASCHE (15060) ARMSTRONG TEASDALE, LLP ONE METROPOLITAN SQUARE SUITE 2600 SAINT LOUIS, MO 63102-2740				
EXAMINER KAM, CHIH MIN				
ART UNIT 1656		PAPER NUMBER		
NOTIFICATION DATE 07/16/2009		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patent@otm.wustl.edu  
USpatents@armstrongteasdale.com

### Office Action Summary

**Application No.**

10/771,897

**Applicant(s)**

GAUTAM ET AL.

**Examiner**

CHIH-MIN KAM

**Art Unit**

1656

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 March 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 4, 7, 9, 11, 13-15, 17, 19, 20, 22-35 and 37-45 is/are pending in the application.
- 4a) Of the above claim(s) 25-30, 32-34, 41 and 42 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4, 35 and 38 is/are allowed.
- 6) ☒ Claim(s) 7, 9, 11, 13-15, 17, 19, 20, 22-24, 31, 37, 39, 40 and 43-45 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Status of the Claims***

1. Claims 4, 7, 9, 11, 13-15, 17, 19-20, 22-35 and 37-45 are pending.

Applicants' amendment filed March 26, 2009 is acknowledged. Applicants' response has been fully considered. Withdrawn claims 7, 9, 11, 15, 17, 19, 31, 37, 39, 40 and 43-45 have been amended to be dependent from claim 4, and claims 5, 8, 10, 12, 16, 18 and 21 have been cancelled. Claims 25-30, 32-34 and 41-42 are non-elected inventions and are withdrawn from consideration in this Office Action. Since the withdrawn method claims 7, 9, 11, 15, 17, 19, 31, 37, 39, 40 and 43-45 have been amended to be dependent from claim 4, which appears allowable, thus claims 7, 9, 11, 15, 17, 19, 31, 37, 39, 40 and 43-45 are rejoined with the product claims. Therefore, claims 4, 7, 9, 11, 13-15, 17, 19, 20, 22-24, 31, 35, 37-40 and 43-45 are examined.

**Withdrawn Claim Objections**

2. The previous objection to claim 38 is withdrawn in view of applicants' response at pages 8-9 in the amendment filed March 26, 2009.

**Withdrawn Claim Rejections - 35 USC § 112**

3. The previous rejection of claim 5 under 35 U.S.C. 112, second paragraph, is withdrawn in view of applicants' cancellation of the claim, and applicants' response at page 8 in the amendment filed March 26, 2009.

**Withdrawn Claim Rejections-Obviousness Type Double Patenting**

4. The previous rejection of claims 4, 5 and 35 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3 and 45-46 of co-

pending application 10/914,049, is withdrawn in view of applicants' cancellation of the claim, and applicants' submission of a terminal disclaimer in the amendment filed March 26, 2009.

***New Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 7, 9, 11, 13-15, 17, 19, 20, 22-24, 31, 37, 39-40 and 43-45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
6. Claim 7 is indefinite because the claim recites "said method comprising operating an intact living cell containing said receptors and the G-protein biosensor of claim 4", it is not clear what this step does, and how a screening method works without indicating the step of contacting the cell with the candidate agonists and antagonists.
7. Claim 9 is indefinite because the claim merely recites the step of exposing a biosensor cell to agonists and antagonists, it does not recite the step of measuring G protein receptor signaling activity, thus, it is not clear how to determine the signal transduction activity in a live mammalian cell system.
8. Claim 11, 13 and 14 are indefinite because the claim merely recites the step of obtaining a FRET output as a profile over a time period from a live biosensor cell comprising G protein biosensor of claim 4, it does not recite the step of contact with a candidate molecule, nor indicate that how the comparison of FRET profile in the presence and absence of added candidate molecule would identify a candidate therapeutic drug molecule. Claims 13-14 are included in

this rejection for being dependent on a rejected claim and not correcting the deficiency of the claim from which they depend.

9. Claims 15, 17, 19-20, 22-24, 37, 39, 40 and 43-45 are indefinite because the claims lack essential steps in the claimed methods. For example, claim 15 recites using an intact live biosensor cell system containing a receptor and the G-protein biosensor of claim 4, however, the claim does not recite the steps of contacting the intact live biosensor cell system containing a receptor and the G-protein biosensor of claim 4 with a candidate molecule and measuring the intensity of FRET signal. Claims 20 and 22-24 are included in this rejection for being dependent on a rejected claim and not correcting the deficiency of the claim from which they depend.

#### ***Conclusion***

10. Claims 7, 9, 11, 13-15, 17, 19, 20, 22-24, 31, 37, 39-40 and 43-45 are rejected; and it appears that claims 4, 35 and 38 are free of art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Min Kam whose telephone number is (571) 272-0948. The examiner can normally be reached on 8.00-4:30, Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang can be reached at 571-272-0811. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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/Chih-Min Kam/

Primary Examiner, Art Unit 1656

CMK

July 13, 2009